



WERRIS CREEK COAL PTY LTD

ENVIRONMENTAL MONITORING

QUARTERLY REPORT

April, May, June 2009

This report covering the period 1st April 2009 to 30st June 2009 is the quarterly Environmental Monitoring Report written for the Community Consultative Committee.

The report includes environmental monitoring results for the on-site Weather Station, Air Quality, Noise (operational and blasting), Surface and Ground Water together with complaints received and general detail covering site environmental matters.

Note: Monitoring results with any non compliance of monitoring criteria are highlighted in **yellow**.

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1.0 WEATHER STATION

WEATHER

Since the upgrade of the Werris Creek Coal (WCC) weather station in January 2009 there has been no meteorological data loss at the site.

Weather data was available for 100% of April.

Weather data was available for 100% of May.

Weather data was available for 100% of June.

2.0 AIR QUALITY

2.1 HVAS (PM10) Monitoring

High Volume Air Sample (HVAS) monitoring for particulate matter less than 10 micron in size (PM10) is conducted at four sites listed below.

WCHV1 – “Old Colliery”

WCHV2 – “Patterson”

WCHV3 – “Railway View”

WCHV4 – “Eurunderee”

In addition a fifth site WCHV5 at “Railway View” continues to sample total suspended particulate (TSP) matter to monitor the PM10/TSP relationship on a voluntary basis to assist with government departmental air quality data collection and correlation.

Sample data is scheduled for 24 hours every 6 days in accordance with DECCW – EPA protocols and results are reported as micro grams per cubic meter of air sampled or ug/m³.

2.1.1 Monitoring Data Results

Please see PM10 High Volume Air Sampler monitoring data under Appendix 1

2.1.2 Discussion - Compliance / Non Compliance

Individual PM10 24 hour average results at all sites were equal to or below the short term 24 hour impact criteria of 50ug/m³.

All PM10 sites are below the long term impact and land acquisition annual impact criteria of 30ug/m³.

The TSP site is below the long term impact and land acquisition annual impact criteria of 90ug/m³.

2.2 DEPOSITED DUST

Limits were removed from Environment Protection Licence 12290 pertaining to mean annual dust deposition, however, in accordance with commitments within the approved Air Quality Monitoring Program, monthly routine air quality monitoring for Werris Creek Coal continues to be undertaken for deposited dust.

2.2.1 Monitoring Data Results

Please see Appendix 2 – Deposited Dust Monitoring Results.

In accordance with the Department of Planning, Development Consent, deposited dust monitoring limits are set at a maximum level of 3.6 g/m²/month. During the 3 month period, WCC exceeded this result during May monitoring at the WC7 Patterson monitoring location. A result of 5.0 g/m²/month was recorded during May with onsite meteorological data indicating strong South Easterly winds were predominant throughout the month. It is believed that due to the monitor's location to the North of operations and prevailing South Easterly winds, a large area of exposed, cultivated farmland to the South East of the monitor influenced monitoring during this period.

2.3 AIR QUALITY COMPLAINTS

No complaints received regarding excessive dust for the period.

3.0 NOISE

Noise Monitoring is conducted by Spectrum Acoustics at the following locations:

R2: **Zeolite**, R3: **Cinta**, R4: **Old Colliery** (mine owned residence), R5: **Mountain View**, R6: **Hillview** (mine owned residence) R7: **Railway View** (mine owned residence), R8: **Hazeldene**, and R10: **Escott**. Three sets of measurements are made over the "circuit", one during the day time period, (before 6pm), one during the evening period (from 6pm – 10pm) and one at night (after 10pm).

The noise emission criterion for WCC is 35dB(A) unless otherwise subject to a current, legally binding agreement between WCC and the occupant of the affected residential property.

Hillview, Railway View and Old Colliery are mine owned residences and as such monitoring results above 35dB(A) are not recorded as non-compliances.

WCC environmental licence conditions indicate that compliance with noise emission criteria is not applicable under atmospheric conditions where wind speeds are higher than 3m/s and/or there is temperature inversion of greater than +3 degreesC/100m.

3.1 OPERATIONAL NOISE

3.1.1 Monitoring Data Results

Please see noise monitoring data under Appendix 3

3.1.2 Discussion - Compliance / Non Compliance

There were no noise exceedances recorded for the period.

Any elevated levels represented in the results are not recorded exceedances and this is directly due to one or a combination of the factors listed below.

- Temperature inversion of greater than +3 degreesC/100m.
- Wind speeds greater than 3m/s.
- Old Colliery, Railway View and Hillview are mine owned properties.
- A private agreement with the landholder.

3.1.3 Action Taken

No actions necessary regarding routine noise monitoring.

3.2 NOISE COMPLAINTS

No Complaints received for the period.

4.0 BLAST

During this reporting period a total of 16 blasts numbered from 163 to 179 were fired by the blasting contractor, Orica Mining Services.

4.1 BLAST MONITORING

4.1.1 Monitoring Data Results

Table 1

| Shot number | Date fired | Time Fired | Environmental Monitor Results | | | | | | | |
|-------------|------------|------------|-------------------------------|---------|--------------|---------|--------------|---------|-------------|---------|
| | | | Glenala | | Railway View | | Old Colliery | | Escott Road | |
| | | | Vib (mm/s) | OP (dB) | Vib (mm/s) | OP (dB) | Vib (mm/s) | OP (dB) | Vib (mm/s) | OP (dB) |
| 163 | 1/04/2009 | 13:10 | - | - | 0.33 | 110.3 | 0.93 | 113.6 | - | - |
| 164 | 6/04/2009 | 16:36 | - | - | 0.2 | 110.4 | - | - | 1.88 | 113.8 |
| 165 | 17/04/2009 | 14:04 | - | - | 1.84 | 112.1 | - | - | - | - |
| 166 | 24/04/2009 | 13:17 | - | - | 3.31 | 110.8 | 0.65 | 107 | - | - |
| 167 | 1/05/2009 | 13:17 | - | - | 0.65 | 110.7 | 1.11 | 109.3 | - | - |
| 168 | 4/05/2009 | 13:17 | - | - | 0.1 | 110.8 | 1.16 | 114.4 | 0.69 | 108.3 |
| 169 | 5/05/2009 | 13:08 | - | - | 0.67 | 111 | 0.4 | 106.4 | - | - |
| 170 | 8/05/2009 | 13:21 | - | - | 0.75 | 100.2 | 0.48 | 101 | 0.43 | 98.5 |
| 171 | 14/05/2009 | 13:06 | - | - | 1.54 | 114.8 | 1.08 | 112.2 | 1.37 | 89.7 |
| 172 | 15/05/2009 | 13:16 | - | - | 1.12 | 112.8 | 0.86 | 109.4 | - | - |
| 173 | 22/05/2009 | 13:07 | - | - | 0.1 | 109.1 | 1.21 | 113.3 | 0.87 | 113.8 |

| | | | | | | | | | | |
|-----|------------|-------|---|---|------|-------|------|-------|---|---|
| 174 | 5/06/2009 | 13:07 | - | - | 1.39 | 122.1 | 0.08 | 112.2 | - | - |
| 175 | 5/06/2009 | 13:07 | - | - | 1.39 | 122.1 | 0.08 | 112.2 | - | - |
| 176 | 16/06/2009 | 13:11 | - | - | 0.52 | 107.4 | 0.28 | 99.8 | - | - |
| 177 | 17/06/2009 | 13:05 | - | - | 1.16 | 113.7 | 0.79 | 113.2 | - | - |
| 178 | 23/06/2009 | 14:24 | - | - | 2.59 | 81.2 | 2.01 | 106 | - | - |
| 179 | 23/06/2009 | 14:24 | - | - | 2.59 | 81.2 | 2.01 | 106 | - | - |

4.1.2 Discussion - Compliance / Non Compliance

All blasts complied with licence limits. Columns with no value represent monitors which did not trigger a reading at that site for the given blast.

4.1.3 Action Taken

No Actions necessary.

4.2 BLAST COMPLAINTS

No complaints received regarding blasting.

5.0 WATER

Groundwater monitoring was undertaken over the 15th and 25th of June 2009, whilst surface water monitoring was undertaken on the 6th May 2009. All samples were collected and analyzed by ALS Environmental.

4.1 GROUND WATER

4.1.1 Monitoring Data Results

See Appendix 4 - Groundwater Monitoring results.

4.1.2 Discussion - Compliance / Non Compliance

No recorded exceedances. Data recorded against monitoring location MW4, sampled on the 15th June 2009 is incorrect. A second sample was taken from the correct location on the 25th June 2009, these results have also been provided within Appendix 3.

4.2 SURFACE WATER

4.2.1 Monitoring Data Results

See Appendix 4 – Surface water monitoring results.

4.2.2 Discussion - Compliance / Non Compliance

Ground water and routine surface water monitoring undertaken by ALS Environmental returned typical water quality results for the period.

6.0 COMPLAINTS SUMMARY

There were no complaints received during the three month reporting period.

7.0 GENERAL

In general WCC environmental performance over this quarter was very good, with no major concerns noted during monitoring and reporting.

Please feel free to ask any questions in relation to the information contained within this document during item 7 of the meeting agenda.

Regards

Lynden Cini
Environmental Officer
Whitehaven Coal

Appendices

Appendix 1 – PM10 Dust Monitoring Data

Appendix 2 – Deposited Dust Monitoring Data

Appendix 3 – Noise monitoring Results

April 2009

| Table 1 WCC Noise Monitoring Results – 27 April 2009 (day) | | | | | |
|---|---------|-----------|-----------------------|--------------------------|--|
| Location | Time | dB(A),Leq | Inversion °C/ 100m | Wind speed/ direction | Identified Noise Sources |
| Zeolite Australia | 3:52 pm | 39 | n/a | 4.9 m/s NNW | Insects/birds (37), wind (32), WCC inaudible |
| Cintra | 4:10 pm | 38 | n/a | 4.9 m/s W | Insects/birds (37), wind (32), traffic (28), WCC inaudible |
| Old Colliery | 3:15 pm | 39 | n/a | 4.0 m/s W | Wind (35), insects/birds (34), traffic (33), WCC inaudible |
| Mountain View | 5:28 pm | 43 | n/a | 2.2 m/s WNW | Birds/insects (43), wind (31), WCC (<30) |
| Hillview | 4:27 pm | 55 | n/a | 4.9 m/s WNW | Traffic (55), WCC (37), birds (37), wind (30) |
| Railway View | 4:40 pm | 46 | n/a | 3.1 m/s WNW | Traffic (44), WCC (42), birds (30) |
| Hazeldene | 5:10 pm | 37 | n/a | 3.1 m/s WNW | Traffic (34), wind (30), birds/insects (27), WCC inaudible |
| Escott | 3:24 am | 35 | n/a | 3.1 m/s WSW | Insects/birds (33), wind (30), train (28), WCC inaudible |

| Table 2 WCC Noise Monitoring Results – 27 April 2009 (evening) | | | | | |
|---|---------|-----------|-----------------------|--------------------------|--|
| Location | Time | dB(A),Leq | Inversion °C/ 100m | Wind speed/ direction | Identified Noise Sources |
| Zeolite Australia | 8:20 pm | 30 | n/a | 3.6 m/s WNW | Wind (28), insects (25), WCC inaudible |
| Cintra | 8:37 pm | 29 | n/a | 3.1 m/s WNW | Wind (27), insects (22), traffic (22), WCC inaudible |
| Old Colliery | 7:40 pm | 35 | n/a | 4.5 m/s WNW | Traffic (35), WCC barely audible |
| Mountain View | 9:42 pm | 30 | n/a | 3.1 m/s WNW | Insects (28), WCC (25) |
| Hillview | 8:45 pm | 50 | n/a | 2.7 m/s WNW | Traffic (50), WCC (34), insects (30) |
| Railway View | 9:03 pm | 51 | n/a | 2.7 m/s NW | Train (49), WCC (46) |
| Hazeldene | 9:25 pm | 31 | n/a | 2.7 m/s WNW | Traffic (30), WCC (24) |
| Escott | 8:02 pm | 32 | n/a | 4.0 m/s WNW | Plane (32), insects (25), WCC inaudible |

| Table 3 WCC Noise Monitoring Results – 27/28 April 2009 (night) | | | | | |
|--|----------|-----------|-----------------------|--------------------------|--|
| Location | Time | dB(A),Leq | Inversion °C/ 100m | Wind speed/ direction | Identified Noise Sources |
| Zeolite Australia | 10:35 pm | 26 | >+3 | 2.2 m/s WNW | Bats (23), wind (23), WCC inaudible |
| Cintra | 10:52 pm | 33 | >+3 | 1.7 m/s NW | Dogs (32), traffic (25), WCC inaudible |
| Old Colliery | 10:00 pm | 35 | >+3 | 2.7 m/s NW | Traffic (34), birds (28), WCC (27) |
| Mountain View | 12:33 am | 28 | >+3 | 3.1 m/s WNW | WCC (27), traffic (21) |
| Hillview | 11:10 pm | 42 | >+3 | 2.2 m/s WNW | Traffic (42), WCC (32) |
| Railway View | 12:10 am | 44 | >+3 | 2.2 m/s WNW | Train (43), WCC (37) |
| Hazeldene | 12:50 am | 38 | >+3 | 2.9 m/s NW | Traffic (38), WCC (30), insects (27) |
| Escott | 10:18 pm | 26 | >+3 | 2.7 m/s WNW | Birds (24), dogs (20), WCC inaudible |

May 2009

| Table 1 WCC Noise Monitoring Results – 28 May 2009 (day) | | | | | |
|---|---------|-----------|-----------------------|--------------------------|----------------------------------|
| Location | Time | dB(A),Leq | Inversion °C/ 100m | Wind speed/ direction | Identified Noise Sources |
| Zeolite Australia | 3:13 pm | 39 | n/a | 1.3 m/s NW | Zeolite Australia (38), WCC (34) |
| Cintra | 3:30 pm | 38 | n/a | 0.4 m/s W | WCC (36), insects/birds (34) |

| | | | | | |
|---------------|---------|----|-----|-------------|--|
| Old Colliery | 2:35 pm | 35 | n/a | 2.2 m/s W | Insects/birds (31), traffic (30), WCC (30) |
| Mountain View | 5:00 pm | 35 | n/a | 2.2 m/s SSW | Birds/insects (35), traffic (21), WCC inaudible |
| Hillview | 3:48 pm | 57 | n/a | 0.9 m/s WNW | Train (57), birds (42), traffic (40), WCC (36) |
| Railway View | 4:17 pm | 46 | n/a | 0.4 m/s WNW | Traffic (44), WCC (42) , birds (30) |
| Hazeldene | 4:41 pm | 42 | n/a | 1.8 m/s SSW | Traffic (40), birds/insects (37), WCC inaudible |
| Escott | 2:55 am | 35 | n/a | 1.3 m/s WNW | Plane (34), WCC (27) , insects/birds (25) |

| Location | Time | dB(A),Leq | Inversion °C/ 100m | Wind speed/ direction | Identified Noise Sources |
|-------------------|---------|-----------|-----------------------|--------------------------|--|
| Zeolite Australia | 8:17 pm | 33 | n/a | 1.8 m/s SE | WCC (32) , birds & insects (25), |
| Cintra | 8:35 pm | 34 | n/a | 2.2 m/s SSE | WCC (33) , birds & insects (26) |
| Old Colliery | 7:40 pm | 40 | n/a | 1.3 m/s S | Insects (38), WCC (32) , traffic (31) |
| Mountain View | 9:44 pm | 30 | n/a | 0.9 m/s SSE | WCC (30) , insects (20), |
| Hillview | 8:53 pm | 56 | n/a | 2.2 m/s SSE | Traffic (56), WCC (31) , birds & insects (30) |
| Railway View | 9:10 pm | 47 | n/a | 2.2 m/s SE | WCC (47) , insects (25) |
| Hazeldene | 9:29 pm | 30 | n/a | 1.8 m/s SE | WCC (29) , farm animals (22) |
| Escott | 8:00 pm | 32 | n/a | 1.8 m/s SSE | Plane (30), WCC (28) , insects (20) |

| Location | Time | dB(A),Leq | Inversion °C/ 100m | Wind speed/ direction | Identified Noise Sources |
|-------------------|----------|-----------|-----------------------|--------------------------|--|
| Zeolite Australia | 10:38 pm | 35 | >+3 | 0.9 m/s S | WCC (34) , traffic (28) |
| Cintra | 10:55 pm | 33 | >+3 | 1.3 m/s S | WCC (31) , traffic (29), insects (26) |
| Old Colliery | 10:02 pm | 44 | >+3 | Calm | WCC (41) , birds & insects (39), |
| Mountain View | 12:47 am | 35 | >+3 | 0.9 m/s SSE | WCC (34) , insects (30) |
| Hillview | 11:07 pm | 43 | >+3 | 1.5 m/s S | WCC (42) , traffic (40), |
| Railway View | 12:10 am | 46 | >+3 | 1.8 m/s SSE | WCC (46) |
| Hazeldene | 12:30 am | 47 | >+3 | 0.9 m/s SE | Train (47), WCC (35) , insects (27) |
| Escott | 10:21 pm | 35 | >+3 | 0.4 m/s SE | WCC (34) , train (25), insects (23) |

June 2009

| Location | Time | dB(A),Leq | Inversion °C/ 100m | Wind speed/ direction | Identified Noise Sources |
|-------------------|---------|-----------|-----------------------|--------------------------|---|
| Zeolite Australia | 5:12 pm | 42 | n/a | 6.3 m/s W | Wind (40), birds (36), WCC (30) |
| Cintra | 5:30 pm | 45 | n/a | 5.8 m/s W | Wind (44), insects/birds (38), WCC inaudible |
| Old Colliery | 4:35 pm | 45 | n/a | 6.3 m/s W | Insects/birds (44), wind (35), WCC (35) |
| Mountain View | 8:40 am | 42 | n/a | 2.2 m/s SSW | Insects/birds (39), wind (38), traffic (30), WCC inaudible |
| Hillview | 8:22 am | 65 | n/a | 4.5 m/s WNW | Train (65), traffic (45), insects/birds (35), WCC (30) |
| Railway View | 8:03 am | 52 | n/a | 4.9 m/s WNW | WCC (51) , birds (44) |
| Hazeldene | 8:22 am | 40 | n/a | 4.9 m/s WNW | Traffic (38), insects/birds (34), WCC inaudible |
| Escott | 4:55 pm | 38 | n/a | 4.0 m/s WNW | Wind (35), insects/birds (32) plane (30), WCC inaudible |

| Location | Time | dB(A),Leq | Inversion °C/ 100m | Wind speed/ direction | Identified Noise Sources |
|-------------------|---------|-----------|-----------------------|--------------------------|---|
| Zeolite Australia | 8:18 pm | 38 | n/a | 5.4 m/s WNW | Wind (35), birds & insects (32), plane (30), WCC |

| | | | | | |
|---------------|---------|----|-----|-------------|---|
| | | | | | faintly audible |
| Cintra | 8:35 pm | 41 | n/a | 4.9 m/s WNW | Wind (40), birds & insects (36), WCC inaudible |
| Old Colliery | 7:40 pm | 40 | n/a | 3.6 m/s WNW | Insects (35), wind (35), WCC (33) |
| Mountain View | 9:44 pm | 40 | n/a | 5.4 m/s W | Wind (39), WCC (35) |
| Hillview | 8:54 pm | 43 | n/a | 6.3 m/s W | Wind (39), WCC (39) , traffic (35) |
| Railway View | 9:11 pm | 52 | n/a | 7.2 m/s WNW | WCC (51) , wind (42) |
| Hazeldene | 9:28 pm | 43 | n/a | 5.8 m/s W | Wind (39), WCC (38) , insects (32) |
| Escott | 8:01 pm | 33 | n/a | 4.5 m/s WNW | WCC (30) , planes (28), wind (25) |

| Table 3 WCC Noise Monitoring Results – 9 and 10 June 2009 (night) | | | | | |
|--|----------|-----------|-----------------------|--------------------------|---|
| Location | Time | dB(A),Leq | Inversion °C/ 100m | Wind speed/ direction | Identified Noise Sources |
| Zeolite Australia | 10:37 pm | 38 | >+3 | 4.2 m/s WNW | Wind (37), insects (31), WCC inaudible |
| Cintra | 10:55 pm | 35 | <+3 | 4.2 m/s WNW | Wind (35), WCC inaudible |
| Old Colliery | 10:01 pm | 38 | <+3 | 4.5 m/s WNW | Wind (36), WCC (32) , insects (32), traffic (25) |
| Mountain View | 12:50 am | 38 | <+3 | 4.9 m/s WNW | Wind (38), WCC (32) |
| Hillview | 11:12 pm | 46 | >+3 | 4.0 m/s WNW | Traffic (46), WCC (35) |
| Railway View | 12:15 am | 50 | >+3 | 4.9 m/s WNW | WCC (49) , wind (40) |
| Hazeldene | 12:33 am | 41 | >+3 | 5.4 m/s WNW | Wind (39), WCC (37) |
| Escott | 10:20 pm | 33 | >+3 | 4.5 m/s WNW | Wind (32), WCC (27) |

Appendix 4 – Groundwater and Surface water monitoring data.